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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,868	05/09/2001	Stanley W. Stephenson	82633RLO	4959

7590 12/09/2005

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EXAMINER	
DHARIA, PRABODH M	

ART UNIT	PAPER NUMBER
2673	

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/851,868	STEPHENSON ET AL.	
	Examiner	Art Unit	
	Prabodh M. Dharia	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-11* is/are pending in the application.

4a) Of the above claim(s) *1-4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *05-09-01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. **Status:** Receipt is acknowledged of papers submitted on 05-10-2005 under request for reconsideration has been placed of record in the file. Claims 5-11 are pending in this action. Claims 1-4 have been cancelled.

Response to Amendment

2. The amendments filed on 05-10-2005, is sufficient to overcome the objection made to claim 5 under 35 US 112. The objection is withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,118,439 to Ho et al in view of US Patent 6,268,840 B1 to Huang.

In reference to claims 5 and 11, Ho illustrates in figures 4 and 5, an addressing structure having rows and columns of conductors arranged so that when a column and a row overlap, they define a selectable pixel or segment to be viewable or non-viewable. Ho teaches a switching mechanism (items 160 and 170; column 4, lines 32-38) operatively coupled to the addressing structure, the switching structure being operative to output either a first voltage and a second voltage. Ho teaches at least one column voltage divider for each column and at least one row

voltage divider for each row within the addressing structure, the row and column voltage dividers being responsive to the. first and second fixed voltages to provide one of two selectable voltages for each column and one of two selectable voltages for each row (column 3, lines 1-4, "large" and "low" current voltages). Ho teaches a selection circuit operatively coupled to the switching mechanism that selects one of either the first or second voltages in accordance with a predetermined scheme (column 7, lines 61- 67) wherein the column voltage divider provides one of two voltages for each column and the row voltage divider provides one of two voltages for each row so that a particular pixel or segment (items 232, 233, 236, 222, 224, 226).

The difference between Ho's invention and the applicant's invention lies in the particular type of LCD display the driving circuit is using. Ho teaches a voltage driving circuit for a LCD display but never specifically establishes the exact type of LCD. However, Huang teaches Cholesteric liquid crystal (Col. 1, Lines 17,18), unipolar (Col. 2, Lines 44-47) bistable display (Col. 1, Lines 17-20), with row and column addressing controlled by switching (Col. 2, Lines 65-68, Lines 44-47, Col. 3, Lines 1-25, Col. 9, Line 55 to Col. 10, Line 2) with voltage divider for column and rows (Abstract, Col. 2, Lines 34-43, Col. 3, Lines 1-25, Col. 7, Lines 52-64, Col. 8, Line 14-20).

Thus, it would have been obvious to a person of ordinary skill in the art to modify Ho's invention with Huang teaching of Cholesteric liquid crystal (Col. 1, Lines 17,18), unipolar (Col. 2, Lines 44-47) bistable display (Col. 1, Lines 17-20), with row and column addressing controlled by switching (Col. 2, Lines 65-68, Lines 44-47, Col. 3, Lines 1-25, Col. 9, Line 55 to Col. 10, Line 2) with voltage divider for column and rows (Abstract, Col. 2, Lines 34-43, Col. 3, Lines 1-25, Col. 7, Lines 52-64, Col. 8, Line 14-20) to resemble applicant's invention. The

motivation for combining these inventions would have been to have a bistable cholesteric liquid crystal display using a pipeline scheme and unipolar waveforms to provide high-speed updating of the visual display.

In reference to claim 6, it is apparent from the Ho's abstract and figure 4 (item 100) that the Voltage driving means is a single chip.

In reference to claim 7, Ho's invention uses a single voltage source Vcc (figure 7).

In reference to claim 8, Ho's invention uses a ground voltage (figure 7).

In reference to claim 9, it can be seen from figure 7 of Ho that the voltage divider uses resistors.

In reference to claim 10, Ho teaches a circuit responsive to an input signal for causing the selection of appropriate diodes to provide the appropriate voltage at a selected pixel or segment of the display (column 4; lines 7-13).

Response to Arguments

5. Applicant's arguments with respect to claims 5-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ynag; Deng-Ke et al. (US 6154190A) Dynamic drive method and apparatus for bi-stable liquid crystal display.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668. The examiner can normally be reached on M-F 8AM to 5PM.

8. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

PD

AU2673

December 3, 2005

VIJAY SHANKAR
PRIMARY EXAMINER